

Abstract of the Disclosure

To provide an ArF excimer laser device capable of a pulsewidth FWHM of 20 ns or more, a pulse duration time of 50 ns or more, and a spectrum line width FWHM of 0.35 pm or less, and to provide a KrF excimer laser device and a fluorine laser device with stretched pulse widths. The ArF excimer laser device connects to the output terminal of a magnetic pulse compression circuit and has a pair of laser discharge electrodes located within the laser chamber and a peaking capacitor connected in parallel with the pair of laser discharge electrodes. The output waveform of the laser pulse has a bifurcated form with a front half peak and a later half peak and, if the peak value of the front half peak is P_1 and the peak value of the later half peak is P_2 and the (proportion of the pulse later half peak) = $P_2 / (P_1 + P_2) \times 100 (\%)$, then the (proportion of the pulse later half peak) is 50% or more.